THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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EDITORIAL NOTES.

The Xmas examinations have just been held in England and Scotland, but space compels us to hold over till next week the lists of successful candidates. As usual, the Botany table has proved a stumbling block to many men, and it becomes a question of serious importance whether the Council should not hold some enquiry into the value of this subject, and the extent to which it is desirable our students should be tested.

Benthams *British Flora* consists of over 500 pages of small print, and the candidate is not safe who leaves many pages of it unread. Our regulations limit the Botanical examination to—food plants, medicinal plants, poisonous plants growing in the United Kingdom, and the Morphology of such. Probably the Council had in view food, medicine, and poisons only in relation to the domestic animals: but an examiner may fancy that a wider view is correct and include their application to man. If he does the subject is practically limitless, and the candidate's botanical knowledge of tomatoes, grapes, and mistletoe may be drawn out, or his ignorance of the minute relationship of glume to awn in some of the rarer grasses be exhibited. At last examination we heard of a man being asked to define the differences in the varieties of yew, and this year we are informed that most of the examination was conducted without specimens. Veterinary students have a very full curriculum, and some proportion should be acknowledged in the value of subjects. To estimate Botany as on a level with Anatomy or Chemistry is simply monstrous, and yet in practice one man may pass his A examination with only "sufficient" in each subject, whilst another is rejected with "very good" in Chemistry, and a "bad" in the paltry subject of Botany.

The Royal Agricultural Society has made a bold step in the right direction by deciding to grant £500 per annum for the establishment of a chair of Comparative Pathology at the Royal Veterinary College. This opens up possibilities of good never before within the reach of veterinary students—possibilities of research as well as teaching. Properly organised and properly conducted this new department will be able to conduct inquiries which hitherto have required the aid of medical specialists and of laboratories outside of veterinary direction. We do not wish to detract from the value of work done nor to be ungrateful for the assistance given us, but it is always more satisfactory to feel that *we* did it, and that we are in a position not merely to absorb, but to initiate and carry on original work. There is much to be done, and our knowledge of the habits and diseases of animals gives us a good solid foundation on which to conduct researches so directly connected with the lower animals. The thanks of the whole profession are due to the Royal Agricultural Society, and may best be given by the fullest acceptance of their gift, and if possible by attempting to increase its value The Royal College of Veterinary Surgeons might start a fund out of which annual grants could be made to assist the most deserving and best qualified students to continue their connection with the Comparative Pathology laboratory. The selection of the man might be left to the College. In connection with this scheme we have a strong case with which to approach Government and ask for a money grant.

Differences on matters of opinion may be reasonably expected and allowed in our dealings with flesh and blood, both living and dead. We have recently had reason to think however that veterinary experts prefer to differ on more substantial and less visionary grounds, and hence it is that they are found disputing in open court on what is purely a matter of fact, about which two opinions should not exist. In the last number of this journal we published a report of a case in which it was alleged that a certain carcase of meat was unfit for human food by reason of the animal having died from blood-poisoning. The veterinary evidence in the case was, as Sheriff Scott-Moncrieff expressed it, most "mysterious," but we fail to understand him when he designates as "extraordinary" that which he affirms to be "constantly occurring in all the courts." The point in dispute was clearly as to the existence or non-existence of certain definite pathological characters, which when grouped together are usually taken to indicate the existence of blood-poisoning. On the one hand it was affirmed that the flesh was dark in colour, soft, and soapy, the lungs congested, blood extravasated beneath the lining of the heart, and hœmorrhage into the bowels: while on the other it was confidently asserted that the carcase was perfectly sweet and fresh, that the lungs were healthy, that no extravasation of blood in the organs or tissues existed, and that there was nothing in the viscera to indicate disease. Indeed the statements on the one side distinctly contradict those made on the other. It must be regarded as unsatisfactory to find the light and leading of our profession deliberately opposed to each other on elementary matters of pathological fact. It is no use, we fear, to re-iterate the stale observation that the profession suffers by such unpardonable discrepancies, but we call attention to the case in the hope that the "art of observation" may not be longer disregarded by those to whom we are taught to look for guidance.

ARTICLES AND CASES.

NASAL GLEET—DISEASED TOOTH.

By Jno. B. Wolstenholme, Manchester.

Aged Boat Mare, with a chronic fœtid purulent discharge from left nostril. On examination of the molar teeth it was found that there was a small space between the 4th and 5th upper on the left side, that the debris it contained was exceedingly fœtid, and that the gum around the fifth was somewhat scanty and retracted.

Sep. 23rd.—Having cast and chloroformed, I opened the maxillary sinus close up to the Nasalis Longus muscle, and punched the fifth molar out, the fangs were carious, and the sinus was blocked with decomposing pus.

The septum between the upper and lower divisions of the maxilliary sinus was absent, having been absorbed.

The frontal sinus also was trephined and it contained inspissated pus.

The after-treatment consisted in simply washing out the passages with tepid water by means of a force pump, twice daily in the early period, and once daily later on.

The mare made a good recovery and went to work on November 11th.

SARCOMATOUS TUMOUR IN THORAX.

By Jno. B. Wolstenholme, Manchester.

Bay Cart Gelding, nine years old, in fair condition.

Jan. 21st, 1889.—Pulse 60, Temperature 104·8, Sterterous breathing, and cannot feel the pulse at jaw from extensive œdema, which extends down the neck and involves the breast and fore legs.

Jan. 22nd.—Œdema of breast and fore legs increased.

Jan. 23rd.—Seems somewhat better, temperature 102·0 respiration easier, but the swelling about the lower third of neck, breast, beneath the sternum and fore legs increased.

Jan. 24th, Noon.- Eating well, temperature 103·0, swelling still increased, so that from the nose to behind the withers he has the appearance of an elephant. At 5 p.m. he was seen comfortably eating, but in half-an-hour afterwards he was found dead, having fallen and expired apparently without a struggle.

Post-mortem.—Although no hœmorrhagic patches were visible beneath the conjunctiva or schniderian membrane, a number of them were present beneath the skin, beneath the endocardium, also extensive extravasation had taken place. A large imperfectly formed clot filled the right ventricle.

There was a little fluid in the chest and some recent costal pleuritis, the lungs were simply congested.

Surrounding the trachea on its entrance into the thorax, adherent to the anterior ribs and filling up this portion of the cavity, was a mass of pale gland-like tissue, in size about that of the heart of a cart horse.

On removing the viscera from the chest, it was found that at the juncture of the second and third ribs with the sternum on the left side, a recent fracture had existed, and from which part the tumour had originally developed.

Dr. Harris, of the Manchester Infirmary, examined the growth microscopically, and pronounced it a sarcoma.

On making enquiry as to the injury to the ribs and breast, I was informed that the horse fell on to a heap of rockery stones rather more than three months previously, and that from that time he had seemed uneasy on the belly-band or collar pressing him.

PLEURO-PNEUMONIA IN ABERDEEN.

By Parlane M. Walker, Halifax.

I read with a considerable degree of pleasure your short notice of Skinner's paper on the above subject in last Saturday's *Record*, as it corroborates the opinion expressed by me in a paper which I read before the Yorkshire Veterinary Medical Society at Leeds, some six years since, the report of which must have escaped Mr. Skinner's notice.

The following is an extract from the paper referred to:—"I have long thought that pleuro-pneumonia in cattle can exist without showing itself in the lungs and chest. We can have the fever and nothing more. I also maintain that in such cases, sympathetic effusion can and does take place into other organs distant from the usual seat of mischief, such, for instance, as the brain." In confirmation of my opinion, I will give a brief history of one out of several cases of the sort I have been called upon to treat.

I was called in to see an Irish cow which had been bought in the market about seven weeks before, (and here, I may say that this was the only recent addition to the stock, and that there was not a single case of pleuro-pneumonia in the neighbourhood). On examination I could detect no trace of the disease in the lungs, although to my mind it was a very suspicious case, all the other symptoms being present. I visited her again in a few days and still could find no trace of disease in the lungs, the other symptoms much aggravated, and, in addition, severe head symptoms had developed. As it was evident there was no chance of recovery I advised that she be killed, which was done.

On making a *post-mortem* I found the lungs perfectly healthy, not a spot on them; but on opening the head about a teacupful of serum flowed out. The brain being quite healthy proved the effusion to be entirely sympathetic. Five weeks after the above occurrence I was again requested to visit the same premises, when I found three out of a stock of ten cattle suffering from a virulent attack of pleuro-

pneumonia. From time to time the whole stock was killed with the exception of two, where the symptoms of fever only showed themselves, in one case for a day, and in the other for two days, after which they went on all right. In due time fresh stock was introduced to replace those killed, without any further outbreak of the disease. These facts ought, I think, to convince any unprejudiced mind that the first case, which I have mentioned, was decidedly the origin of the later outbreak.

In conversation with some of the "leading lights" of our profession I ventured to express my opinion on the subject of pleuro-pneumonia without lung symptoms, but they ridiculed the idea. I believe, however, that that opinion is now being pretty generally adopted by provincial practitioners, who hesitate to give their experience or to express their opinions, knowing that, if those opinions differ from the pre-conceived and often antiquated notions of those in high authority the proverbial "wet blanket" is at once thrown over them.

PROFESSIONAL EVIDENCE.

By H. C. Wilkie, M.R.C.V.S., F.Z.S.

I sincerely trust for the credit of the veterinary profession that your extract of the report of the Grahamston meat case is very incorrectly reported, or summarised. To my mind, as it stands it reflects gravely upon the professional witnesses, and I believe any thinking man could draw but one logical deduction from such a report, and that is that on one side or the other some of the experts are deserving of the strongest censure of the profession.

The statements to which I more particularly wish to refer are matters in which the most ordinary professional observation is involved as I do not wish to open any question in matters of opinion.

One professor of veterinary science says the lungs of the cow were "highly congested," while another professor says they were "perfectly healthy."

One witness says "the stomach was in a condition of intense inflammation — That meant disease." Another says "the stomach was *full of fæces* and in a healthy condition." I should have thought this rather an abnormal condition by the way. Another says "the stomachs he saw having contained food were beginning to putrify—In the fourth stomach the congestion was natural." Another witness says "the posterior part of the fourth was highly congested and inflamed."

Sheriff Scott-Moncrieff comes to the conclusion that "how such a conflict arose was very mysterious but they had instances of it constantly occurring and in all the courts"

If this is so, our knowledge of morbid anatomy must be deplorably limited, much more so than I am willing to believe it is. Of course if different men are liable to make such totally distinct and opposed observations, their conclusions must necessarily be antagonistic. At the same time I should be glad to learn how such observations are taken, and also how eight experts can make eight *post-mortem* examinations on the same carcase and each speak positively as to the cause of death. I should certainly be inclined to think the first gentleman in the field would have the best chance of coming to a correct conclusion, and that the last would have little or no grounds on which to make a positive statement.

Such cases as these must necessarily appear to the public very like ignorance or even something worse, indeed I am afraid to imagine what any ordinary educated man would think of the veterinary profession, were he asked to form an opinion with this case as a basis. I am convinced that nothing will more certainly lower our status than repetitions of such expert evidence. It would of course be folly to expect to get a number of scientific men to all give the same opinion on any case where a difference is admissible, but here we get statements as to matters of actual fact totally dissimilar and incongruous. If I ask two men to describe a given article, say a bucket, and one says it is a truss of hay, while the other says it is a sledge hammer, I should, I think, come to the same conclusion as to those men as the public will as to the exponents of veterinary science in the Grahamston dead meat case.

RABIES AND MUZZLING.

By Woodroffe Hill, F.R.C.V.S.

I fully agree with Mr. A. E. Hollingham that "it is expedient *(and indeed high time)* that the Members of our Profession should more generally express their views as to the usefulness of the muzzle *per se* in stamping out rabies."

This is essentially a subject for veterinary discussion, but so far, with a few exceptions, laymen have been holding forth as scientists on canine matters—supported by Members of the Medical Profession whose duties should confine their attention to the human race, and whose sense of etiquette should prevent them from interfering with matters —belonging to the sister profession—and which they know little or nothing about.

There is a time to laugh and a time to be serious —and I think the period of laughter has arrived after the statement by Mr. Kerslake, and repeated by his deputation to Mr. Chaplin on Saturday last— that muzzling will stamp out distemper. Surely the Members of the Veterinary Profession will not calmly allow such arrant rot and nonsense to be proclaimed without exposing its absurdity.

Individually I still remain firm in my belief that muzzling is absolutely useless as a measure for the extermination of rabies, and my views on the subject have so frequently been made public, that I will now only add, that I hope the Members of our Profession will argue the pros and cons of the muzzle fully and exhaustively. Kennel-men look to Veterinary Surgeons—not to Medical men—for advice on doggie-matters, and it is time they and the public should learn the views of the Profession on the Muzzling Mania.

PROPOSED EXAMINING BODY FOR GRANTING CERTIFICATES TO SHOEING SMITHS.

By Albert Wheatley, Reading.

In *The Record* dated Dec. 14th 1889, you ask for ANY "suggestions or comments" on the above.

As I do not know at all the lines on which the above is proposed to be carried out, I would offer a suggestion that certificates be awarded to both *Fireman* and *Doorman*, as one frequently sees a man at the wrong side of the anvil, he may be a *thoroughly good Doorman* in every sense of the word, but as a Fireman he is a failure, in fact, does not know how to take hold of his tools.

Will certificates be granted (to Firemen) to the man who can forge the iron, working it in the most business-like manner and putting *that* finish to his work that one loves to see, then fitting the same to the horse's foot in ordinary every-day work, or to the man who shows the greatest aptitude in judging *what* kind of shoe to use in difficult cases, such as sunk-soles, a bad over-reacher, a speedy-cutter, or one that "clicks" badly; or will both be taken into consideration? I know that a man who does one *well* can usually do the other, but exceptions in this as in all cases "prove the rule."

We all know that where one man can apply a piece of iron to a horse's foot so that the horse goes soundly, another man cannot do so, and this is seen over and over again.

I trust these few remarks may be of some service.

REGISTRATION OF FARRIERS.

A conference was held last week at 12 Hanover Square, between representatives of the Farriers' Company, the Royal Agricultural Society, and the Royal College of Veterinary Surgeons, to consider a scheme for Examination and Registration of Farriers. A draft scheme was presented by the Worshipful Company of Farriers, as amended by the Special Committee and approved by the Court.

The Object is—For the promotion of technical instruction of farriers and the Registration of duly-qualified men throughout the country, under the auspices of the Farriers' Company of London.

The Method by which it is proposed to achieve this is by Examination, Registration, Instruction and by Apprenticeship.

The Executive Body is to consist of Members appointed by the Farriers' Company, the Royal Agricultural Society, the Royal College of Veterinary Surgeons, and the Amalgamated Farriers' Union.

District Councils are to be formed in any district which takes sufficient interest in the subject—the Members to consist of Veterinary Surgeons, Practical Farriers, and Local Horse-owners.

Registration of all approved applicants will be undertaken by the Worshipful Company of Farriers, who will grant Certificates. All candidates shall be required to pass an examination, but men established in the trade prior to the opening of the Register may, on satisfactory proof of fitness, be registered without examination.

Instruction is to be given, if possible, in the Technical Schools, or by Veterinary Surgeons, or Registered Farriers.

Small Fees will be payable for Examination and for Registration.

An Apprenticeship Fund will be established by the Farriers' Company for the purpose of advancing premiums to Apprentices to Farriers.

Subscriptions will be accepted by the Worshipful Company, who propose to open a special banking account for the purpose.

This scheme is evidence that the Farriers' Company have taken a really wide view of the subject, and are not afraid to face the difficulties of what promises to be an extensive organisation. The co-operation of the Royal Agricultural Society, which is freely given, will not only ensure public support but will, in every district where the Society holds an annual show, afford the means for public competitions, which may be used not only to select the best men for prizes, but to test the fitness of any Candidates for Registration.

No very large sum of money need be collected before the scheme is put into practice. The Central Organisation in London may easily be formed, and District Councils will be affiliated as each locality shows its desire for their establishment.

Local Agricultural and Veterinary Societies will probably assist in organising the District Councils, and the farriers will come forward for registration as soon as the owners of horses are awake to the fact that the certificated men are the most reliable workmen.

A wide adoption of Registration will make the trade of farrier a definite calling, and raise the public estimate of his work. It will also limit the meaning of the term, and teach people that a farrier is not a blacksmith, nor a horse-doctor, but a shoer of horses.

[We invite comment on this scheme from all our readers. —Ed.]

INGESTION AND INHALATION AS MODES OF INFECTION.*

By Wm. Hunting, F.R.C.V.S.

There may possibly be some room for argument as to whether it is altogether advisable for veterinarians to devote a large share of their time and abilities to the prevention of disease instead of the cure of it. Personally, I hold that according to our usefulness will be our public appreciation and reward, and, therefore, that prevention is as valuable to us as cure. To look forward to the time when we shall have stamped out all contagious disease requires an almost prophetic eye, and when that

* Read before the Meeting of the Royal Counties' Veterinary Medical Association, November 29th, 1889.

remote date arrives I have every confidence that our share in the achievement will be credited to us, and that we shall suffer no material loss.

At the present time we are expected by the public to take a leading part in the prevention of contagious diseases, and we cannot evade the matter.

I do not believe we wish to—on the contrary, the subject is so interesting, so fascinating I may say, that it would be difficult to find a man who did not take pleasure in attempting to master the difficulties presented by the spread of disease.

During the last twenty-five years we have done much to arrive at the truth concerning contagious diseases. We have practically discovered their true nature. With few exceptions, we believe that a disease which is contagious is always due to a specific organism. In some few instances the organism has been isolated and a good deal of its natural history made clear. With the assistance thus derived from laberatory experiments we are enabled to better understand the clinical phenomena presented by disease. Years ago it was surmised that contagious diseases were caused by germs but only recently has that surmise been posstively proven to be correct in some cases. In only three or four diseases has the positive evidence been obtained, but we feel tolerably certain that what applies in these cases applies also in other cases of a similar nature.

To the specialists we must leave the discovery and identification of the specific cause of each di ease, but we must utilise our observations in attempting to find out how these diseases spread—how they pass from one animal to another.

If we record the facts which can only be seen in the behaviour of the disease as it affects animals in wide districts, in large herds and extensive studs, we shall do much to assist the study of disease in individual animals. The theories we, as practitioners, may form, if only they are founded on facts, are of as great value as the deductions arrived at in the laboratory.

The most complete study of a solitary blade of grass can never teach all about crops; we must observe the whole field and consider the relations of each individual blade to its neighbour, and the whole to their varied surroundings. So with disease—the widest sphere of observation is as necessary as the closest and most minute examination, and it is for the man of action to grasp the meaning of the facts elucidated by the scientist, and by his application of them to bring out their fuller value to mankind.

The spread of disease from one animal to another must occupy three stages. The escape of infective material from an affected animal, its conveyance to a healthy one and its entrance into the body.

We know that an animal suffering from contagious disease is, as a rule, more or less infective throughout. At some stage of the disease the blood is infective, generally all the excretions and secretions are infective, but in some cases infectious properties are chiefly confined to some special part or material. We know also that nearly every infective tissue or discharge possesses its power for some time after death, or after separation from the diseased animal, and we may therefore safely conclude that the virus may fall upon various objects and may be carried by them to some distance from the source of infection. It follows then that all diseased animals are infective, that the shed, stable, or field may be infective, and that other animals or things in contact may be infective.

I say *may be*, because many conditions operate upon the virus and destroy its vitality. Until we know a great deal more of the life-history of animal poisons we cannot say for certain how they leave the bodies of diseased animals, how long they retain vitality out of the body, what conditions preserve them, or what destroy them.

We are just as much in doubt how they *enter* the body. We know that nearly always an animal virus is capable of inducing disease by direct inoculation, and we know that this method seldom obtains in nature. We know that sound skin affords great obstruction to the entrance of poison through it, and therefore we may dismiss it as of little importance.

But we cannot put it aside as an impossible gateway for infection. There are well authenticated cases of anthrax flesh causing fatal disease in the human subject by contact with the skin, and it is said that glanders in horses has been communicated by the virus passing through the skin. In these cases it is very difficult to prove that the skin was not broken or slightly abraded. It may also be that friction, such as is induced by harness on horses, or as must accompany the carriage of masses of flesh on the backs or shoulders of men, may be sufficient to force an animal poison through a sound skin; but I incline to think that contagious diseases would be more often communicated if the unbroken skin were unable to resist their passage.

We are forced then to the conclusion that most infectious diseases enter the system through the respiratory or the digestive organs—either by inhalation or ingestion.

There are three diseases, the spread of which is often seen, and concerning which much useful observation must have been collected. I propose to just shortly compare some of the most striking features of them and see what a comparison of them suggests.

Glanders, Tuberculosis, and Pleuro-pneumonia have some important analogies—they each have a long period of incubation; they each may have a still larger period of latency; they all present well-marked lung lesions; they spread with more or less rapidity—and too often with the greatest subtlety.

If we consider their most marked pathological lesion, we should naturally form the theory that the respiratory organs were the ones into which the poison was first introduced. It seems so simple to understand how a lung disease should be originated by direct inhalation. Only a thin delicate membrane intervenes between the air which may carry the virus and the lung tissue in which the organisms are found in a state of activity. But we are at once met with the difficulty that in *two* of these diseases if induced by *any method* of infection—for in-

stance, inoculation or ingestion—we obtain the same prominent lung lesions.

What does clinical observations of these three diseases teach us? and what may we learn from experiments that have been reported?

Glanders spreads through a stable of horses with more certainty than rapidity when once introduced by a diseased animal. Some horses remain in an infected stable for many months without showing any signs of disease, but many animals in infected studs, dying from other causes, present marked glanderous lung lesions on *post-mortem* examination, although during life they were not even suspected. After contact with diseased horses, a period of two years and more may elapse before any signs of developed disease are noticed, and then the lung changes are such as to suggest that they have been going on for a very long time. All contagious diseases have a period of incubation, but with most the termination of this period is marked by very evident constitutional disturbance—in other words the commencement of disease indicates the cessation of the incubative stage. In Glanders, Tuberculosis, and Pleuro-pneumonia, we have three diseases in which the period of incubation does not necessarily terminate in any noticeable constitutional change. Specific disease of the lung may in each disease commence, and progress to some considerable extent, without causing sufficient disturbance to attract the attention of even a careful expert observer. This period of latency is the cause of much difficulty in tracing the spread of these diseases, and may often vitiate the results of experimental infection. It also causes doubt as to the correctness of clinical observations, for we may form very definite conclusions as to the mode in which an animal has become infected (from having witnessed some condition in which it is quite probable virus entered the system) whilst as a fact infection had taken place long previously. The period of latency in each of the diseases I am referring to, although marked by no *evidence* of disease, is accompanied throughout by very positive changes in the lung, which I believe may take place without any initiatory fever. Such animals are a source of great danger to others, but they are not always constantly infective. The virus is not given off from the lungs in the expired air until some lesion occurs which liberates it. The latent cases become infective when a diseased part of the lung opens direct into an air passage, or when the disease is rendered acute by the occurrence of fever. In glanders, of which I have most experience, these latent cases are converted into acute ones by any cause which originates a rise of temperature in the body, and then we have profuse nasal discharge of the most infective nature.

In glanders contagion is spread by the food in the mangers, with the result that it is common to find the horse standing next to the place where a diseased one stood, soon show the disease. We nearly always find that a diseased horse in the midst of other horses affects the animal on the same side as that from which he had a nasal discharge, which I take to be evidence that infection resulted from the virus having been conveyed to the food on that side, and thus taken into the system through the stomach. We find also that nose-bags used by diseased horses are common methods of spreading infection—the food is infected and then swallowed. A water-trough to which all the horses in a stud are allowed access is such a certain method of infection that it is almost impossible ever to stamp the disease out in a large stable until it has been closed—Infection can only spread from a water trough by ingestion. Then we have experimental proof that glanders is easily communicated by mixing the infective discharges with the food of healthy horses.

We have no evidence that glanders is ever spread by inhalation. Direct experiment has failed to produce it by inhalation, and I know of no circumstance noticeable in practice which would suggest such a method of infection. If the disease were communicated by inhalation we should expect it to spread more generally in stables, and we should more frequently fail to detect the connection between one case and another. As a fact, careful observation will nearly always enable us to trace direct contact or the agency of food or water as the cause of the spread of glanders in a stable. The disease is readily communicable to man by inoculation, and we never see a case in him that cannot with certainty be traced to direct contact. If it could be conveyed by inhalation we should have a large number of cases in stable-men, who spend nearly as many hours in the buildings as the horses. Again, we do not find that a well ventilated stable affords the slightest protection against the spread of the disease, nor do we find in open fields that the contagion is slower to act than in stables. A large experience and careful observation has forced me to the conclusion that glanders does not spread by inhalation, but that it is communicated either by ingestion or inoculation.

Of tuberculosis I have very little experience. The lung lesions are very similar to those found in glanders, and experiments have shown that the disease may be induced by ingestion. I know of no experiments to show that it may be spread by inhalation, and if it be true that nurses in consumption hospitals exhibit no special liability to the disease I think we have a strong argument in favour of ingestion being the only method by which it is spread. If glanders is not spread by inhalation why should tuberculosis be? We know that both diseases may be induced by infection through the stomach, but we have no evidence to prove that they may be communicated by inhalation.

Pleuro-pneumonia does not present so many analogies to glanders as does tuberculosis. There are changes in the lung, but they are similar only in the peculiarities of arising in some cases without much general disturbance, and of remaining for a very long time without causing any marked sign of disease, although they may possess infective power. How this infection passes we do not know. Ingestion has failed to transmit the disease, and direct inoculation has never yet succeeded in producing the specific lung changes by which alone we recognise this disease. Its spread in sheds and fields is rapid, and the fresh air in open

meadows seems to have no effect in retarding it We seem driven to believe that inhalation must be *the* method of spread in this disease. Ingestion and inoculation have both failed, but natural infection never fails. It seems that inhalation is the only channel which is open. Some carefully conducted experiments are badly wanted to determine the exact method in which the infective virus escapes from a diseased animal and obtains access to the system of a healthy one.

Of course clinical observation is always liable to error. We cannot see the whole of a case, and we seldom see its commencement. We have to take the history for what it is worth, and above all we have to guard against the impression made on our minds by striking cases, especially if they fit in with any little theories we happen to have elaborated. We are on tolerably safe grounds when large numbers of cases present strictly analogous phenomena, and we have a right to conclude that what is clearly demonstrated as cause in effect in ninety per cent of cases is also operating in the other ten cases although disguised from us.

Experimental research is also liable to error, and when not in accordance with the teachings of clinical experience may well be treated as doubtful—as not proven. A number of conditions vitiate pathological experiments on contagious diseases. They cannot always be guarded against and probably account for the rather divergent conclusions arrived at by different—I had almost said rival—experimenters.

Animals show a varying receptivity for disease, some are infected at once, others exhibit considerable powers of resistance, and a few absolutely withstand all attempts at infection. I very much incline to believe that the majority of cases of immunity are explainable by the simple fact that the active virus has failed to reach them, but there are authenticated instances of immunity in which the animal has not only been subjected without effect to all the natural chances of infection, but has withstood carefully arranged experiments in which the virus has been introduced by inoculation, by inhalation, and by ingestion. We know no explanation of these rare escapes, we can only record them.

Of course in some diseases from which animals recover we have immunity from attack as the result of previous infection. In the three diseases I have specially referred to we cannot recognise the explanation of immunity as we do not see recoveries. In some cases an acute form of the complaint kills speedily; in others the chronic condition brings about death in a much slower but equally certain manner. Whenever the lungs become the site of lodgement of the specific cause, death is only a matter of time, for in no case does the disease permanently yield to treatment, neither is spontaneous recovery seen. It seems as though the lung tissue afforded conditions favourable to the activity and multiplication of the virus, but possessed no power to destroy it. The specific organism of glanders or tuberculosis appears to retain its vitality and power of increase in the lung, but not in all other tissues. It dies in the blood, and it effects no permanent lodgement in muscle. Unless the blood stream carry the organism to a favourable position for existence it dies. No matter in what way the virus gains access to the blood it may, when once there, be carried to the lungs, and then we have changes of a permanent character. That morbific virus may gain admission to the system through the lungs I cannot dispute, but I incline to think that infection by inhalation is very much less common than by ingestion. In most virulent fluids the active agent is capable of separation by filtration, and in some instances it is sufficiently particulate and ponderable to sink to the bottom. We have not yet recognised either a soluble or a volatile virus, and the conveyance of disease germs by the air rests upon very slight evidence. Of course an animal may inhale dust, but very few of the solid particles reach the ultimate air cells. The moist air passages check the ingress of solid particles, and the constant outward motion of mucus along the air tubes tends to their rapid egress.

It has been taught that the most trifling particle of an animal virus will give as certain results as a large quantity, but this is not true. Dilution of vaccine matter can be carried to a stage in which its action as virus becomes uncertain, and to a farther stage at which it ceases to be infective. It has been found that although animals fed entirely on tuberculous tissue soon become diseased, yet that if the infective material be mixed with a good proportion of healthy food, no disease ensues. Virulent fluids differ very much in their infectivity, and this may be due, as Loffler found in chronic glanderous discharges, to their containing few or none of the specific organisms.

What with the power of the animal body to destroy infective elements, and the conditions outside the body which maintain or destroy them, we have great difficulties in properly estimating the dangers of contagion, and even the elementary knowledge of how a virus leaves one animal and obtains access to another is most imperfect. We require a vast increase of carefully recorded observations and a large number of direct experiments before we can show proof that our measures are really trustworthy.

The practical lesson I wish to learn is what preventive measures are most effective against the spread of contagious diseases. If ingestion be the most common method we must devote our chief attention to guarding the food and water from contamination, at the same time that we disinfect secretions and excretions of diseased animals, and the buildings in which they exist.

If inhalation be the chief method we have an even more difficult task. We cannot disinfect air in which living animals are kept—we can only isolate completely the infected ones.

Personally, I believe very little in infection by inhalation. With the exception of pleuro-pneumonia I should almost be inclined to doubt that inhalation spreads disease at all amongst animals.

Mr. Simpson said that with regard to infection by inhalation—in cases of glanders he was by no means prepared to go the length that Mr. Hunting had

gone. In making an examination of either a suspected or an unmistakable case of glanders he took good care not to have his nose or mouth very close to that of the horse at the time when the animal was expiring. Neither did he quite agree with the paper in the question of the conveyance of the disease by sheds previously occupied by animals suffering from glanders, but which had long been disused. He was distinctly of opinion that the virus of glanders would retain its vitality for a very considerable period, and he always hesitated to place an animal in a shed which had been so infected, before every precaution had been taken in the way of disinfection. He would have the place cleansed and disinfected not only once but twice or thrice. As to the conveyance of disease by ingestion he perfectly agreed that the germs of the disease were more likely to take up their abode in the system of the animal when the matter passed into the stomach and bowels, when the lacteals were as ready to take up the diseased material as the nutritious portion of the food. At the same time he was not prepared to admit that there was comparatively small risk run by allowing animals to inhale the air of a stable in in which a case of glanders exists without actual contact. Pleuro-pneumonia, in his opinion, could only be conveyed by contact or from inhalation of the air of a shed or field in which cases of pleuro-pneumonia exists with the live diseased animal. He remembered reading in some very old book that experiments were once tried at the Royal Veterinary College by giving to healthy horses the virus of glanders in balls, and the disease was not produced.

Mr. HUNTING said Prof. Coleman produced it so that way.

Mr. SIMPSON said he was in favour of the theory that tuberculosis was frequently spread by ingestion. About twelve months ago he examined a cow which he decided was suffering from tuberculosis. The owner wondered how it could have arisen. At last he (Mr. Simpson) remembered that the son of the steward was the subject of tuberculosis, and he had observed while visiting the farm that the lad expectorated very freely all over the yard. The young man had died a month or two before his attention had been called to the cow, and he had not the slightest doubt that the cow became infected by the expectorations on the straw or hay in the cow houses. With regard to the non-susceptibility of some animals to contagion or infection, when he was at College Dr. Burdon Sanderson and some other medical gentlemen were investigating cattle plague, and two or three students were told off to assist them, he (Mr. Simpson) amongst the number. A calf was inoculated in several places and at different periods with the virus of cattle-plague, and by means of the mouth, similar virus was administered, but we failed to produce any symptom of the disease.

Mr. WILSON did not think it was always necessary for the morbid material to pass into the stomach to infect the animal. His experience bore out Mr. Hunting's remarks as to animals in the field being as likely to be infected by pleuro-pneumonia as those that were kept in sheds. In conclusion he exhibited to the meeting specimens of the flesh of an animal which had recently died from this disease in his district.

Mr. VILLAR said he remembered some experiments made at the Veterinary College with regard to Glanders, one pony in particular was given Glander material in a ball almost daily but never developed the disease. Mr. Hunting had told them the morbific material would be diluted by the ingesta, and no doubt in the form of a ball the poison was much diluted. With regard to nose-bags, which were undoubtedly prolific in the spreading of this disease, the essayist appeared to lose sight of the fact that the bag covered the nostrils as well as the mouth; the glander poison was particulate, and he saw no reason why the germs should not be arrested in the material of the nose-bag and re-inhaled by the next horse that used the bag. Then, again, it appeared to him that the bacilli could quite as easily permeate the very thin membrane of the air-vesicles of the lungs as enter at the lacteals in the intestine, especially as the morbific matter would, before reaching the lacteals, be subjected to the action of the gastric juice and the bile which was held to be an antiseptic.

Sir H. SIMPSON said as Mr. Hunting had referred to the difference in communicability in acute and chronic glanders, he would suggest that that gentleman might try if he could not so dilute the material that animals might be inoculated with it. With regard to the instances mentioned of animals being moved into four stalls and becoming infected, there might be other causes besides ingestion. It was more likely that the animals took it in another way rather than by getting it into the digestive system. He had known cases where glanders had broken out twelve months after a stable had been well cleansed. It was well known that germs of vegetable matter were preserved for a long time, and he saw no reason why germs of animal matter should not. With regard to inoculating an animal with cattle-plague, he knew of a case where it was doubtful whether the death was caused by that disease or not. Prof. Simmonds, who made the *post-mortem* examination declared it was a kind of typhoid fever. He (Sir Hy. Simpson) however, inoculated another animal with the virus direct from the cow, and had not the slightest difficulty in producing cattle-plague in ten days.

(Further discussion adjourned).

VETERINARY MEDICAL SOCIETIES.

SOUTH DURHAM & NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A Meeting of this Association was held in the North-Eastern Hotel, Darlington, on Friday, December 13th, 1889.

Jno. Nettleton, Esq., President, in the Chair. There were also present:—Messrs. Peele, West Hartlepool; Pickering, York; Nash, Richmond; Stevens, Briggs, Gelsthorpe, and Axe, Darlington;

Peele, Durham; Nicholson, West Auckland; and Awde, Stockton-on-Tees.

An interesting case of Fractured Humerus was brought forward by Mr. Pickering

The Committee appointed submitted the rules they had drawn up which, with some slight alterations, were adopted and ordered to be printed.

A discussion on the President's address was carried on by the members present

Mr. Pickering then introduced the subject of "Pupilage and Practice," discussion on which was postponed till next meeting.

GOVERNMENT VETY. DEPARTMENT.

CONTAGIOUS DISEASES IN ANIMALS.

Reported in Great Britain and Ireland during the week ended December 7th, 1889.

Pleuro-pneumonia.—In England 2 fresh outbreaks of this disease were reported, 1 in Lancashire and the other in London, 3 cattle were attacked and 21 healthy ones in contact were slaughtered. No fresh outbreak occurred in Scotland, but 8 cattle were attacked on previously infected premises in the counties of Edinburgh, Renfrew, and Selkirk, 30 healthy cattle exposed to infection in the counties of Edinburgh, Forfar, Peebles, and Selkirk were slaughtered. In Ireland there were 3 fresh outbreaks, 1 in North Dublin and 2 in Rathdown, 3 cattle were attacked and 38 healthy ones in contact were slaughtered.

Anthrax. In Great Britain 5 outbreaks of anthrax were reported, 3 in England, in the counties of Wilts, York, North and West Ridings; the 2 outbreaks in Scotland occurred in the counties of Fife and Inverness. Altogether 11 animals were attacked, 8 of which died and 3 were still alive atthe end of the week. No case of anthrax occurred in Ireland during the week.

Swine-Fever.—In England 57 fresh outbreaks of swine-fever occurred. and 253 swine were attacked. No fresh outbreak was reported in either Wales or Scotland, but in the former country 28 pigs were attacked on previously infected premises in Denbighshire. Of the diseased pigs existing 136 were kiiled, 119 died, 31 recovered, and 331 remained alive when the returns were made up. In Ireland 5 outbreaks of swine-fever were reported and 7 pigs attacked.

Glanders and Farcy.—There were 19 fresh outbreaks of glanders in England during the week, viz., 16 in London, 2 in Middlesex, and 1 in East Sussex; 25 horses were attacked, 21 in London, 2 in Middlesex, 1 iu East Sussex, and 1 in Lanarkshire on premises where the disease has for some time existed. There were 11 fresh outbreaks of farcy reported in England, 9 in London, 1 in Middlesex, and 1 in East Sussex; 14 horses were attacked, 12 of which were killed. No case of either glanders or farcy occurred in Ireland during the week.

Rabies.—In England 6 cases of rabies were reported, all in dogs, 1 in Kent. 1 in Middlesex, 1 in Surrey, and 3 in York (W.R.). In Ireland 5 cases of this disease were reported; 2 in dogs, in the counties of Cork and Wicklow, 2 in cattle in the counties of Monaghan and Tyrone, and 1 in a pig, in Kerry.

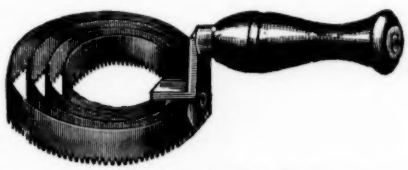
EXTENSION OF THE MUZZLING ORDER.

The Board of Agriculture, by virtue of the powers vested in them under the Board of Agriculture Act, 1889, and the Contagious Diseases (Animals) Acts, 1878 to 1886, have determined that the present dog muzzling order shall continue in force from and after the 31st inst.. "until it is declared by further order of the Board to cease to apply." A schedule to the order gives the following list of the districts to which the order applies:—County of Chester; County of Essex; County of Hertford; County of Kent; County of Lancaster; County of London; City of London; County of Middlesex; County of Surrey; West Riding of the County of York; inclusive of 64 Boroughs.

TRADE NOTICES.

"SPRATT'S" CURRY COMB.

Spratt's Patent have introduced a novel and ingenious curry comb. It may be described as a circular spiral steel comb attached to a handle. This arrangement gives great flexibitity to the instrument, and whilst preventing it injuring the skin, facilitates its motion over depressions and elevations of the body.



Our experience of it is that it is most suitable for the better bred horses; its flexibility rather militating against its effectiveness on dirty, coarse, long coats of heavy horses. It is claimed for it that its open construction allows dirt and dust to pass through it at once and therefore saves the time of the stable man. This may be, but it entails a counterbalancing disadvantage, viz:—that the dust caused by its use passes at once into the air, and is rather a nuisance to the man using it. At any rate this is the only objection raised against its use by omnibus horse-keepers, to whom we have given it for trial. It seems to us that this objection applies equally to the indispensable dandy brush.

THE H.P. HORSE NAIL

The triumph of machinery over hand labour has been slow indeed as far as farriery goes, but it is generally allowed that machinery has beaten hand

labour in the production of horse nails. They are more uniform in size and form, no pointing is requisite, and the smoothness and finish of each nail cannot be equalled by the work of the best workmen. The first machine-made nail was produced by Messrs. Moser, who devoted skill, time, and money to the perfecting of their manufacture with a pluck and determination that deserves recognition and reward. They are now the only English manufacturers, and we should really not encourage foreign productions so long as we can obtain as good an article at as cheap a price from our own countrymen. The H. P. is a good and reliable nail, made of first-class material, of good form and well finished. It is ready pointed, and has, what is essential in a good horse-shoe-nail, a proportionate size of head. To enable a farrier to properly direct and drive a nail, there must be a wide fuller or nail hole. If the head of the nail is not correspondingly large it does not fit, and its security is depreciated. The H. P. is certainly one of the best nails in the market.

Obituary.

Thos. Pottinger, V,S., A.V.D., Assistant Superintendent of the Poona Army Veterinary School, and Lecturer at the College of Science, died at Umballa on 2nd November, aged 34. The deceased officer was formerly Demonstrator of Anatomy at the Royal Veterinary College, London, and lately officiated as Principal of the Bombay Veterinary College. His professional skill and genial character were much appreciated by his colleagues and pupils, by whom he is greatly missed. His death is a serious blow to the veterinary profession in India.

NOTES AND NEWS.

Influenza in Man and Animals.

A very interesting fact with regard to epidemic influenza is that its prevalence in the human race has often been coincident with the prevalence of a similar disease among domestic animals—dogs, cats, cows, and especially horses. In the horse it commences suddenly with sneezing, followed by rigors, fever, etc. Many horses may be attacked simultaneously, or almost so, so that in a few days all the horses in a large town, or even throughout an extensive tract of country, may be incapacitated.

That this specific influenza of the horse is identical with the human disease which bears the same name cannot be positively affirmed, but the probability of identity is very great. Loew seems to have been the first to point out this coincidence, which he had observed during the epidemic which swept over Europe from Iceland to Sicily, and from Russia to Spain in 1729-30. In 1758, Dr. Robert Whytt was struck by the fact that an epidemic of influenza in Great Britain was accompanied by a similar disease in horses, and observations pointing in the same direction were subsequently made by Huzard, Gluge, d'Arboval, and many others.

In 1872, there was a widespread outbreak among horses in the United States, followed, early in 1873, by a universal prevalence of the disease among the people of North America. Dr. James C. Wilson, of Philadelphia, during the prevalence of the disease in Canada and the Eastern States in 1880, observed in several localities that "the horses were first affected, the dogs next, and after the lapse of some weeks, as the animals were recovering, the disease became epidemic; but those persons who took care of horses, and were much in contact with them, neither suffered earlier nor more severely than others not so exposed." It is, interesting, therefore, to learn that influenza has been prevalent among horses in this country during the last six weeks, and that recently the epizoötic has attained such large proportions that the price of cartage has gone up in the coal and other markets.—*Brit. Med. Journal.*

Veterinary Research in India.

A continuous investigation into the phenomena of Surra, (Equine Relapsing Fever), was recently completed by the Principal and students of the Bombay Veterinary College. For 240 consecutive hours from each of the patients was taken a specimen of blood for staining with each of three analine dyes, for permanent preservation of the micro-organisms, and each hour the temperature of the body and the number of pulse-beats were recorded. The resulting charts are remarkable, and we hear, likely to yield interesting information on careful study. In all some 3,000 slides have to be examined fully. Periodical examinations of the fresh blood were made, and the students (who worked in pairs, relieved every four hours) were tested as to their accuracy of work. This enquiry is probably one of the most sustained ever carried out in the annals of veterinary research.

Comparative Pathology.

Sir John Thorold reported, at the monthly meeting of the Council of the Royal Agricultural Society of England, held on December 11th, that the Veterinary Committee, conscious of the necessity of the work of scientific investigation into the diseases of animals being carried on continuously, had resolved to recommend that, instead of giving their customary grant to the Royal Veterinary College for general purposes in connection with cattle pathology the Society should make an annual grant of £500 for the establishment of a chair of Comparative Pathology and Bacteriology at the Royal Veterinary College, subject to the College undertaking as before to investigate any outbreaks of disease amongst animals that may be reported by members of the Society, and to defray the expenses of such investigations when considered necessary or advisable, and of the existing veterinary privileges of members being continued as at present. This recommendation was adopted by the Council.

Hereditary Diseeses.

Thoroughbred stallions shown for premiums of the Royal Commission on Horse-breeding at the Royal Agricultural Society of England will in future be disqualified on the detection of any of the following diseases:—Roaring, Whistling, Ringbone, Unsound feet, Navicular Disease, Spavin, Cataract.

The Clear Light of Modern Science!!

The two following sentences are taken from contemporary medical writing—the first over-rates the powers of "modern (laboratory) science" and the second suggests on the flimsiest facts some possible relation of the lower animals to human diseases. Why prophesy. Why not wait?

"When the attention of bacteriologists is concentrated on the influenza epidemic (and we learn that in Professor Sackers's laboratory at Vienna investigations are already being made), the clear light of modern science will be thrown on its precise condition.

It may possibly appear that, in its passage through the lower animals the virus gains its power of influencing for evil the human subject."

Mr. Huxley on Physiology as a Guide in Therapeutics.

Mr. Herbert Spencer has made a remark suggesting a belief that the modern practitioner treats his patients by deduction from physiological principles rather than by careful induction from the observed phenomena of disease and of the effects of medicine. Mr. Huxley's reply is:

"Well, all I can say is, Heaven forbid that I should ever fall into that practitioner's hands; and if I thought any writings of mine could afford the smallest pretext for the amount of manslaughter of which that man should be guilty, I should be grieved indeed. Whenever physiology (including pathology), pharmacy, and hygiene are perfect sciences, I have no doubt that the practice of medicine will be deducible from the first principles of these sciences. That happy day has not arrived yet, and I fancy it is not likely to arrive for some time; but until it comes, no practitioner who is sensible of the profound responsibility which attaches to his office, or, I may say, is sane, will dream of treating cholera or small-pox by deduction from such mere physiological principles as are at present well established."

Medical Attendance at the Edinburgh School.

The attendance at the Edinburgh Medical School is reported to be this winter larger than ever. Apparently one of the causes for the increased numbers is the growing tendency which prevails in favour of a five years' course. On November 30th, the matriculated students of medicine in attendance at university classes numbered 1,656—a figure distinctly above that recorded for the corresponding date last year. For the same date the returns from the other faculties are reported as follows: arts, 900; law, 456; divinity, 112.

Advance Australia!

Sir Henry Parkes, Premier of New South Wales, has promised that the question of establishing a veterinary school of medicine in connection with the Sydney University shall receive serious consideration.

Treatment of Warts

Altschul recommends the treatment of warts by Unna's method, namely, mercurial ointment, containing 5 to 10 per cent. arsenic. The ointment is spread on linen, and applied over the wart, which gradually softens, and is finally absorbed without leaving any mark. The method is painless. The treatment of warts by arsenical paste is by no means a new one, and its efficacy has been frequently confirmed.

Horse Medicines.

A Lincolnshire Chemist writing to the *Chemist and Druggist* says, "I have for many years sold a large number of horse-balls and horse powders made up from the recipes of horse-keepers, particularly at our November fair. In 1882 at this fair on one day I made and sold between 500 and 600 horse-balls, as well as making up numerous recipes for horse-powders. Since then the number sold has rapidly decreased, until this year I have not made up a single recipe. This proves, to a certain extent, the benefit horse-owners are deriving from the action the 'Lincolnshire Association for the Prevention of Horse-poisoning' has taken in several cases brought before their notice.

Protection and Pleuro-pneumonia.

At the last general meeting of the Royal Agricultural Society, Surgeon-Major Ince through ignorance of his own profession told the truth about pleuro-pneumonia, and was shortly afterwards enlightened by the President as to the difference between political Protection and *Protection against disease.*

"Surgeon-Major Ince protested strongly against the stamping-out process as applied to pleuro-pneumonia, which he insisted was as purely a spontaneous disease as small-pox or scarlet fever. Slaughtering animals that might be in the same shed or yard with diseased animals in order to prevent outbreaks in other parts of the island was entirely futile. Amid loud cries of dissent, he assured them that Protection was at the bottom of the principle of slaughter."

CORRESPONDENCE.

Communications for the Editor to be addressed 20 Fulham Road, S.W.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

"A SUMMER'S EXPERIENCE OF PUPILS."

SIR,

During the Spring months of this year I had one or two applications from Students who were desirous of seeing practice during the Summer vacation, and as I was given to understand that they wanted plenty of work, I thought that I might dispense with the services of an assistant, and consequently ventured to take one, but only to be disappointed in my expectations. It has been my lot during the last eight months to have four pupils at different times, although it was not my wish to have so many changes in such a short time. In the first place I found them to be fond of work that suited their tastes, but they avoided other kinds, especially where there was any manual labour connected with it. I next found out that after they had seen a month's practice they made some excuse to get away again; two went to see practice with other Veterinary Surgeons, and two went to live with their College friends in Scotland, as they were unable to pay for their board and lodgings. I have since learned that it is a common practice with some Students to stay a few weeks with one V.S. and then to move off to another quarter, their object being to see a variety of practice, copy all the recipes they can, and find a suitable place to start business after obtaining their diploma.

This system may suit the Student very well but it does not suit the V.S. who is at the trouble to initiate them into the mysteries of his pharmacy, &c., and when he begins to think they are likely to be of some little service, he is told of some sudden loss of fortune, or the death of a near relative, or something else which necessitates their immediate departure. Besides, the V.S. is responsible for all mistakes made, destruction of property, loss of instruments, &c.

Are pupils worth having? My experience is, that the game is not worth the candle, unless they pay a good premium and sign an agreement. One Student who went back amongst his chums at College, told me that there were scores of men now waiting for the Session to commence who were wishful to see practice, but could not as they were unable to live separately for want of funds. On enquiring as to what they intended doing when they passed their exams., he replied that they would pitch their tents somewhere and take their chance. We know well that this sort of thing means, working for low fees and otherwise creating disrespect. "Poverty's no crime," but it is the principal cause of Veterinary Surgeons not holding their proper position in Society. It is not altogether necessary for a V.S. to directly follow up his profession to bring it into disrepute, some men pride themselves on having more than one string to their bow, and if they can't succeed as a V.S., they can fall back to some other occupation, it would seem rather strange and not altogether impossible under the present circumstances, that after a time we shall be seeing the name of So & So, M.R.C.V.S. Hosier and Ladies' Outfitter, or some other ridiculous conglomeration.

Yours truly,

WELL WISHER.

VETERINARY STUDENTS' READING ROOMS.

DEAR SIR,

I was very glad to see the remarks you made respecting the Reading-room, etc., at Camden Town. It is a subject that wants a little ventilation, for few except the much-enduring, long-suffering, veterinary students have any idea how the room is managed.

This week the state of the room is no better, and you can imagine that the choicest blessings are not always invoked when a student having to wait an hour or so between lectures enters the room to find it cold, fireless, and supplied with literature in the shape of two antiquated monthly journals. This goes on day after day, and no one lifts a finger to alter it.

Is it any wonder then that the impression prevails amongst many students that the College cares nothing for the way time is spent between the lectures, nor for the acquisition by the future members of that taste for general information which can only be obtained from a properly worked Reading-room.

Had a popular Reading-room been maintained by the College many men would often have turned into it and have found something that would have helped them afterwards. I see you say there is a prospect of this state of affairs being somewhat mitigated after Christmas, and many of us are truly glad.

We ought to have a comfortable room furnished with several small tables where men could work without being disturbed, where writing materials could always be had, and where those who had not work to do could find plenty of interesting reading, such as: our English and American Veterinary papers, Agricultural papers, Illustrated London News, Graphic, Nineteenth Century, etc., etc.

Yours truly, H. S.

BOMBAY, INDIA.
29th November, 1889.

DEAR MR. EDITOR,

May I suggest through your pages that some UNIFORMITY OF SYSTEM IN RECORD OF TRANSACTIONS OF ASSOCIATIONS would be a great advantage to those who have to digest and study such Records. Type and arrangement of matter afford the requisite means of a good Record; care on the part of the Hon. Sec., Printer, and Editor will do the rest.

I would suggest:—

(1). That all purely business matter of the proceedings be abbreviated as much as possible, and put in small type.

(2). That the cases brought forward be always given in full detail, and the specimens fully described.

(3). That the transactions be arranged under several headings, *e.g.*, Association affairs, Specimens, Cases, Papers read; and that each of these divisions of the records be conspicuously distinct.

(4). That where records of cases or descriptions of specimens have appeared in professional journals, a full reference to this be sufficient.

(5). That Introdcctory Addresses, Accounts of Dinner Speeches, &c. be in small type.

(6). That Professional Papers be in large type.

(7). That Names of Speakers, Contributors, &c. appear in capitals (small).

(8). That Subjects of Debate, Nature of Cases, &c. appear in Italics.

Adherence to such simple rules would much assist every

PROFESSIONAL WORKER.

THE ROYAL COLLEGE OF VETERINARY SURGEONS EXAMINATIONS.

SIR,

I should like to say a few words if you will allow me respecting the Royal College of Veterinary Surgeons examinations. To begin with, the Institution makes a great fuss respecting its knowledge of Veterinary Science, etc., and yet we hardly ever hear anything of *note* respecting it. The examinations are, there is no doubt, held in a most funny manner. Students going in for examination before the Board of Examiners do not know the date of examination until about two or three days beforehand, instead of, as in other institutions, having a reasonable notice. Another important fact—and I am sure some of my fellow students will agree with me—Why are Professors allowed in the room at students' examinations? surely a man feels quite nervous enough when he goes before the examiners without also having a Professor sitting by listening to all his mistakes, and knowing afterwards how a man has answered, and very likely treating him afterwards accordingly. Also, what right has an examiner to ask a man whether he has worked or not, (as I heard remarked the other day). Surely it is no business of a man who examines to ask this, as a student expects to be examined, and not to be asked, because he happens to miss a question, whether he has worked or not.

If this is the case and these things are allowed to go on, The Royal Veterinary College had better be turned into a school for lads of 14 years and under, as men don't care for this sort of treatment.

Apologising for occupying this space,

Yours truly,

A VEERINARY STUDENT.